1-52 (Cancelled)

53. (Currently Amended) A method of managing network traffic being routed through a network connection device, the network connection device having a first set of operations, the network traffic being composed of at least first and second traffic flows, each traffic flow being composed of at least one data packet, and the method comprising:

(a) instantiating a virtual machine on the network connection device, the virtual machine having a second set of operations, the second set of operations being a sub-set of the first set of operations,

~~(a)~~ (b) receiving ~~at least~~ a rule program at the network connection device, the rule program including at least:

(i) a first criterion ~~at the network connection device~~ for identifying the traffic flow to which a data packet belongs,

~~(b) receiving at least~~ (ii) a second criterion ~~at the network connection device~~ for classifying a traffic flow as belonging to one of at least first and second traffic flow classes, and

~~(c) receiving~~ (iii) first and second instructions ~~at the network connection device~~ for processing a data packet, the first and second instructions being associated with the first and second flow classes respectively,

(c) executing the rule program by the virtual machine to configure the network connection device,

~~(d) storing the first and second criteria and the first and second instructions on the network connection device,~~

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(e) (d) receiving a first data packet that belongs to the first traffic flow at the network connection device,

(f) (e) using the first criterion to determine that the first data packet belongs to the first traffic flow,

(g) (f) using the second criterion to determine the traffic flow class to which the first traffic flow belongs, and

(h) (g) processing the first data packet according to the instructions associated with the flow class to which the first traffic flow belongs. belongs,

wherein steps (d) through (g) are managed by the virtual machine.

54 (Canceled)

55. (Currently Amended) The method of claim 53, wherein step (f) (e) comprises comparing a first section of the first data packet to the first criterion to determine that the first data packet belongs to the first traffic flow, and step (g) (f) comprises comparing a second section of the first data packet to the second criterion to determine the traffic flow class to which the first traffic flow belongs, the second section being non-exclusive of the first section. wherein the second section may include at least part of the first section.

56. (Currently Amended) The method of claim 53, further comprising the step of receiving supplemental data pertaining to the first traffic flow, wherein the supplemental data is received outside of the first traffic flow and step (g) (f) further comprises comparing the supplemental data to the second criterion to determine the class to which the first traffic flow belongs.

57. (Previously Presented) The method of claim 56, wherein the supplemental data comprises data concerning network access rights of a user of the network, a traffic flow belonging to a user having a first level of network access rights being classified as belonging to the first traffic flow class, and a traffic flow belonging to a user having a second level of network access rights being classified as belonging to the second traffic flow class.

58. (Previously Presented) The method of claim 57, wherein the first and second instructions specify respective first and second bandwidth allocations.

59. (Previously Presented) The method of claim 56, wherein the supplemental data comprises data concerning network access requirements of a network device and the first traffic flow originates at the network device.

60. (Previously Presented) The method of claim 59, wherein the network access requirements of the network device are based on network access requirements of a client application executing on the network device.

61. (Previously Presented) The method of claim 56, wherein the supplemental data comprises data concerning network traffic conditions at a network device and the first traffic flow originates at the network device.

62. (Previously Presented) The method of claim 56, wherein the supplemental data is received from a registry within which data pertaining to multiple network devices is stored.

63. (Previously Presented) The method of claim 56, wherein the supplemental data identifies a work group to which a network device belongs and the first traffic flow originates at the network device.

64. (Previously Presented) The method of claim 56, wherein the supplemental data identifies a physical characteristic of a network device belongs and the first traffic flow originates at the network device.

65. (Previously Presented) The method of claim 56, wherein the supplemental data comprises data concerning network access requirements of a network device and the first traffic flow is being transmitted to the network device.

66. (Previously Presented) The method of claim, 65 wherein the network access requirements of the network device are based on network access requirements of a client application executing on the network device.

67. (Previously Presented) The method of claim 56, wherein the supplemental data comprises data concerning network traffic conditions at a network device and the first traffic flow is being transmitted to the network device.

68. (Previously Presented) The method of claim, 56 wherein the supplemental data identifies a work group to which a network device belongs and the first traffic flow is being transmitted to the network device.

69. (Previously Presented) The method of claim 56, wherein the supplemental data identifies a physical characteristic of a network device belongs and the first traffic flow is being transmitted to the network device.

70. (Previously Presented) The method of claim 56, wherein the supplemental data pertains to a context of receipt of a second data packet belonging to the first traffic flow at a network device.

71. (Previously Presented) The method of claim 70, wherein the supplemental data includes a time of day at which the second data packet was received at the network device.

72. (Previously Presented) The method of claim 53, wherein the first and second instructions pertain to any one of routing, switching or bridging the network traffic.

73. (Previously Presented) The method of claim 53, wherein the first traffic flow originated at a network device and the method further comprises the step of communicating information regarding the first data packet to the network device.

74. (Previously Presented) The method of claim 53, wherein at least one of the first and second criteria and the first and second instructions are provided by a network administrator.

75-76 Canceled

77. (Currently Amended) A method of operating a network connection device, the network connection device having a first set of operations, a data ingress for receiving network traffic, a data egress for transmitting network traffic, and having at least a first criterion, a second criterion and first and second instructions stored therein, the first and second instructions being associated with respective first and second traffic flow classes, the network traffic being composed of at least first and second traffic flows, each traffic flow being composed of at least one data packet, and the method comprising:

(a) instantiating a virtual machine on the network connection device, the virtual machine having a second set of operations, the second set of operations being a sub-set of the first set of operations,

(b) receiving an executable rule program including at least:

(i) a first criterion,

(ii) a second criterion, and

(iii) first and second instructions, the first and second instructions being associated with respective first and second traffic flow classes,

(a) (c) receiving a first data packet that belongs to the first traffic flow at the ingress of the network connection device,

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~~(b)~~ (d) using the first criterion to determine that the first data packet belongs to the first traffic flow,

~~(c)~~ (e) using the second criterion to determine a traffic flow class to which the first traffic flow belongs,

~~(d)~~ (f) processing the first data packet according to the instructions associated with the flow class to which the first traffic flow belongs, and

~~(e)~~ (g) transmitting the first data packet from the egress according to the instructions associated with the flow class to which the first traffic flow ~~belongs.~~ belongs,
wherein steps (c) through (g) are managed by the virtual machine utilizing the identified operations from the second set of operations.

78. (Cancelled)

79. (Currently Amended) The method of claim 77, wherein step ~~(b)~~ (d) comprises comparing a first section of the first data packet to the first criterion to determine that the first data packet belongs to the first traffic flow, and step ~~(c)~~ (e) comprises comparing a second section of the first data packet to the second criterion to determine the traffic flow class to which the first traffic flow belongs, the second section being non-exclusive of the first section.

80. (Currently Amended) The method of claim 77, further comprising the step of receiving supplemental data pertaining to the first traffic flow, wherein the supplemental data is received outside of the first traffic flow and step ~~(c)~~ (e) further comprises comparing the supplemental data to the second criterion to determine the class to which the first traffic flow belongs.

81. (Previously Presented) The method of claim 80, wherein the supplemental data comprises data concerning network access rights of a user of the network, a traffic flow belonging to a user having a first level of network access rights being classified as belonging to the first traffic flow class, and a traffic flow belonging to a user having a second level of network access rights being classified as belonging to the second traffic flow class.

82. (Previously Presented) The method of claim 81, wherein the first and second instructions specify respective first and second bandwidth allocations.

83. (Previously Presented) The method of claim 80, wherein the supplemental data comprises data concerning network access requirements of a network device and the first traffic flow originates at the network device.

84. (Previously Presented) The method of claim 83 wherein the network access requirements of the network device are based on network access requirements of a client application executing on the network device.

85. (Previously Presented) The method of claim 80, wherein the supplemental data comprises data concerning network traffic conditions at a network device and the first traffic flow originates at the network device.

86. (Previously Presented) The method of claim 80, wherein the supplemental data is received from a registry within which data pertaining to multiple network devices is stored.

87. (Previously Presented) The method of claim 80, wherein the supplemental data identifies a work group to which a network device belongs and the first traffic flow originates at the network device.

88. (Previously Presented) The method of claim 80, wherein the supplemental data identifies a physical characteristic of a network device belongs and the first traffic flow originates at the network device.

89. (Previously Presented) The method of claim 80, wherein the supplemental data comprises data concerning network access requirements of a network device and the first traffic flow is being transmitted to the network device.

90. (Previously Presented) The method of claim 89, wherein the network access requirements of the network device are based on network access requirements of a client application executing on the network device.

91. (Previously Presented) The method of claim 80, wherein the supplemental data comprises data concerning network traffic conditions at a network device and the first traffic flow is being transmitted to the network device.

92. (Previously Presented) The method of claim 80, wherein the supplemental data identifies a work group to which a network device belongs and the first traffic flow is being transmitted to the network device.

93. (Previously Presented) The method of claim 80, wherein the supplemental data identifies a physical characteristic of a network device belongs and the first traffic flow is being transmitted to the network device.

94. (Previously Presented) The method of claim 80, wherein the supplemental data pertains to a context of receipt of a second data packet belonging to the first traffic flow at a network device.

95. (Previously Presented) The method of claim 94, wherein the supplemental data includes a time of day at which the second data packet was received at the network device.

96. (Previously Presented) The method of claim 77, wherein the first and second instructions pertain to any one of routing, switching or bridging the network traffic.

97. (Previously Presented) The method of claim 77, wherein the first traffic flow originated at a network device and the method further comprises the step of communicating information regarding the first data packet to the network device.

98. (Previously Presented) The method of claim 77, wherein at least one of the first and second criteria and the first and second instructions are provided by a network administrator.

99-100 (Cancelled).

101. (New) A method according to claim 53, wherein the rule program also identifies which operations from the second set of operations are to be used in carrying out the first and second instructions.

102. (New) A method according to claim 77, wherein the rule program also identifies which operations from the second set of operations are to be used in carrying out the first and second instructions.

103. (New) A method of managing network traffic being routed through a network connection device, the network connection device having a first set of operations, the network traffic being composed of at least first and second traffic flows, each traffic flow being composed of at least one data packet, and the method comprising:

(a) instantiating a virtual machine on the network connection device,

(b) receiving a rule program at the network connection device, the rule program including at least:

(i) a first criterion for identifying the traffic flow to which a data packet belongs,

(ii) a second criterion for classifying a traffic flow as belonging to one of at least first and second traffic flow classes, and

(iii) first and second instructions for processing a data packet, the first and second instructions being associated with the first and second flow classes respectively,

(iv) a list of a second set of operations,

(c) executing the rule program by the virtual machine to configure the network connection device,

(d) receiving a first data packet that belongs to the first traffic flow at the network connection device,

(e) using the first criterion to determine that the first data packet belongs to the first traffic flow,

(f) using the second criterion to determine the traffic flow class to which the first traffic flow belongs, and

(g) processing the first data packet according to the instructions associated with the flow class to which the first traffic flow belongs,

wherein steps (d) through (g) are managed by the virtual machine utilizing only the operations in the second set of operations.

104. (New) A method of operating a network connection device, the network connection device having a first set of operations, a data ingress for receiving network traffic, a data egress for transmitting network traffic, the network traffic being composed of at least first and second traffic flows, each traffic flow being composed of at least one data packet, and the method comprising:

(a) instantiating a virtual machine on the network connection device,

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(b) receiving an executable rule program including at least:

(i) a first criterion,

(ii) a second criterion,

(iii) first and second instructions, the first and second instructions being associated with respective first and second traffic flow classes, and

(iv) a list of a second set of operations,

(c) receiving a first data packet that belongs to the first traffic flow at the ingress of the network connection device,

(d) using the first criterion to determine that the first data packet belongs to the first traffic flow,

(e) using the second criterion to determine a traffic flow class to which the first traffic flow belongs,

(f) processing the first data packet according to the instructions associated with the flow class to which the first traffic flow belongs, and

(g) transmitting the first data packet from the egress according to the instructions associated with the flow class to which the first traffic flow belongs,

wherein steps (c) through (g) are managed by the virtual machine utilizing only the operations in the second set of operations.